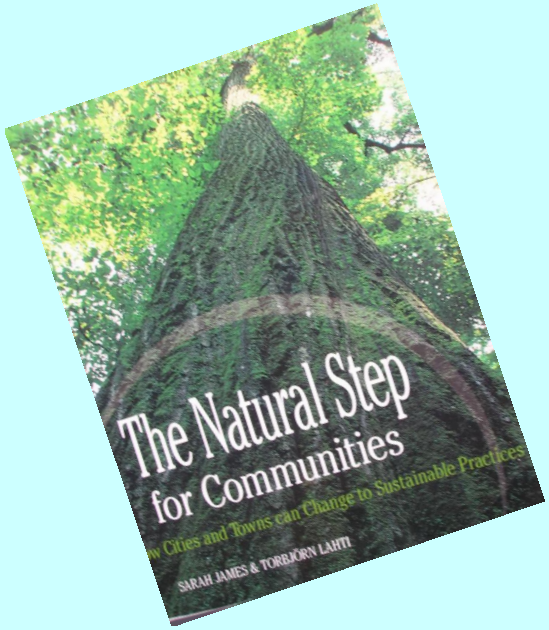
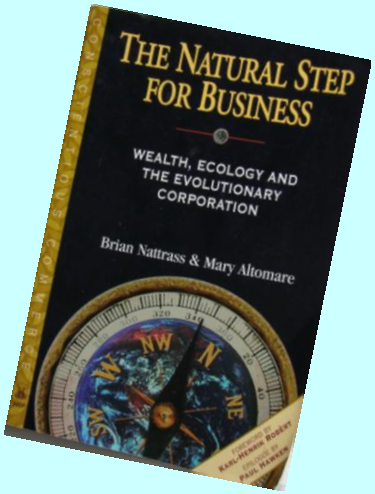
Sustainable Door County





Prepared by Sustain Door Inc.
sustaindoor@gmail.com
sustaindoor.org
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An introduction to sustainability and how it applies to Door County.

What is sustainability?

"Sustainable development . . . meets the needs of the present without compromising the ability of future generations to meet their own needs."

World (Brundtland) Commission on Environment and Development, 1987

Sustainability can be defined on a philosophical level and on a practical level. It is important to have a common, agreed definition of sustainability for meaningful discussion to take place. The Brundtland definition is on the philosophical level and defines sustainability in general terms that everyone can agree with. Important elements of sustainability are meeting present needs, and caring about the future and future generations.

"A way of life that safeguards and enhances our resources, prevents harm to the natural environment and human health, and sustains and benefits the community and local economy – for the sake of current and future generations."

Santa Monica Sustainable City Program

Here's another example of a way to define sustainability.

The 3-legged Sustainability Stool

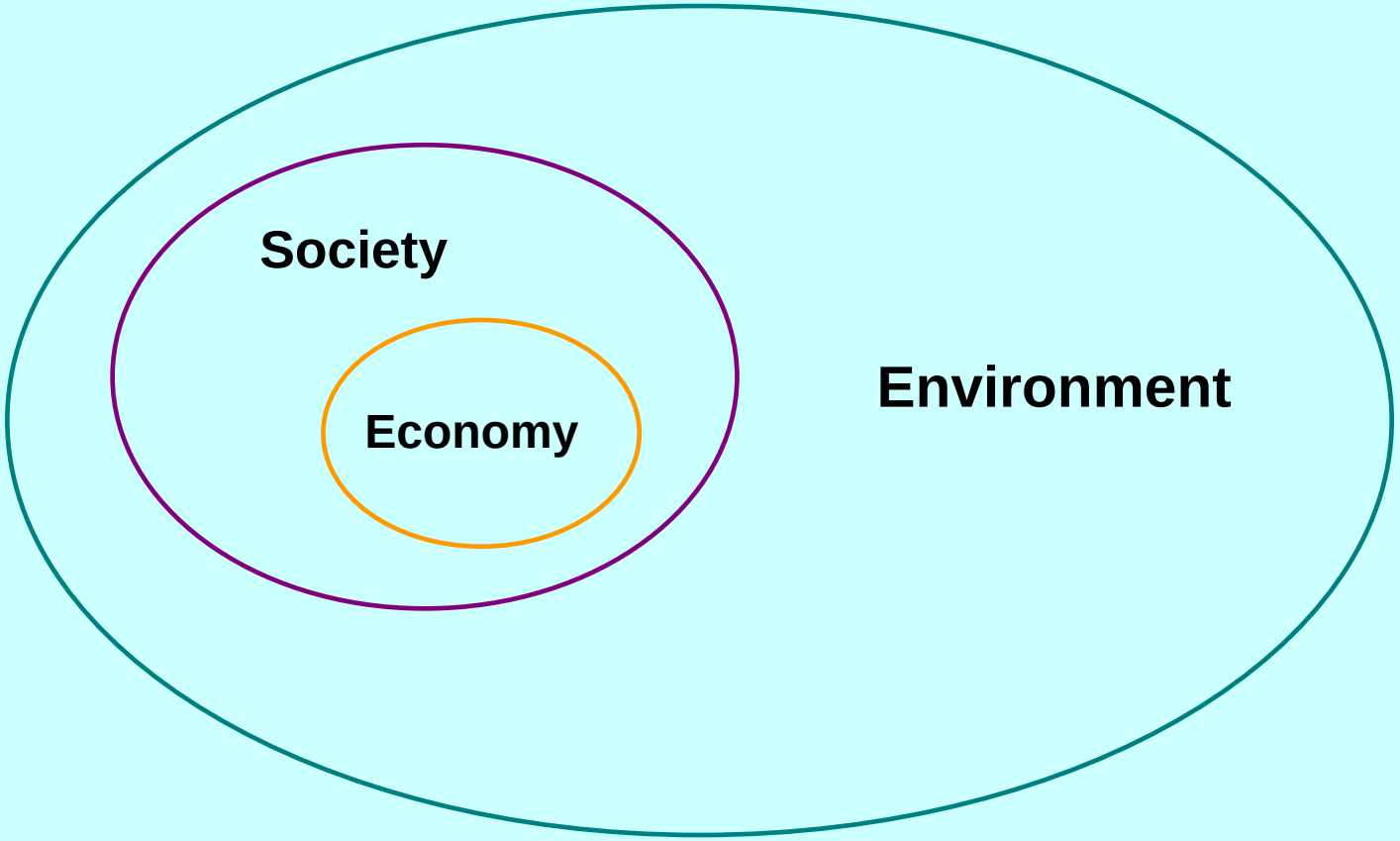
Economic

Social

Environmental

The economy, society, and environment are interdependent.
The sustainability stool only stands when all three legs are strong.
In business terms the three legs represent concepts such as
the triple bottom line and P^3.

Every human endeavor is dependent on a healthy environment.



This Venn diagram is a way of showing the relationship between the environment, society, and prosperity. Here it is easy to see that human society is dependent on a healthy environment, and prosperity is dependent on a healthy society.

Why work for a sustainable Door?

Our Global Reality

Our society is facing many challenges.

Decreasing happiness

Declining trust

Pollution

Poor health

Peak Oil

Poverty

Climate Change

Stress

Population Growth

Terrorism

Water shortages

Increasing consumption

Ecosystem degradation

Public Awakening

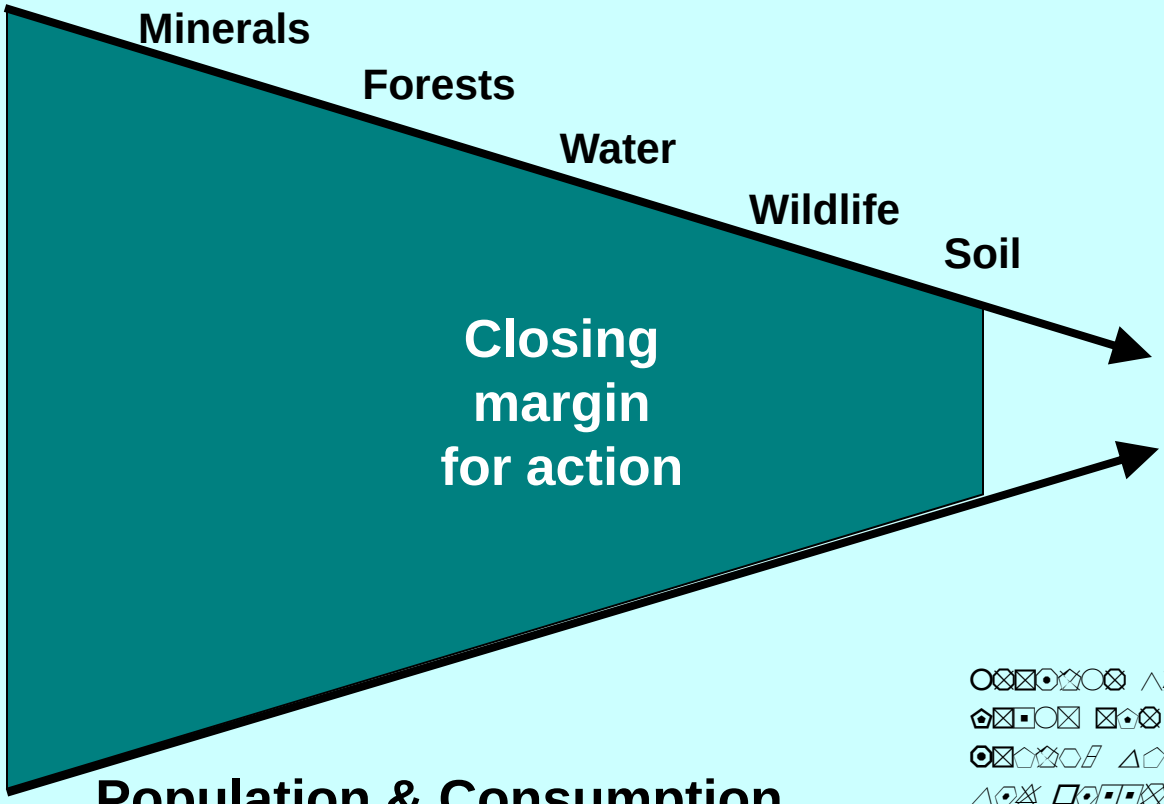
Business seeing the possibilities

Walmart's Goals

- To be supplied 100 % by renewable energy
- To create zero waste
- To sell products that sustain our resources and environment

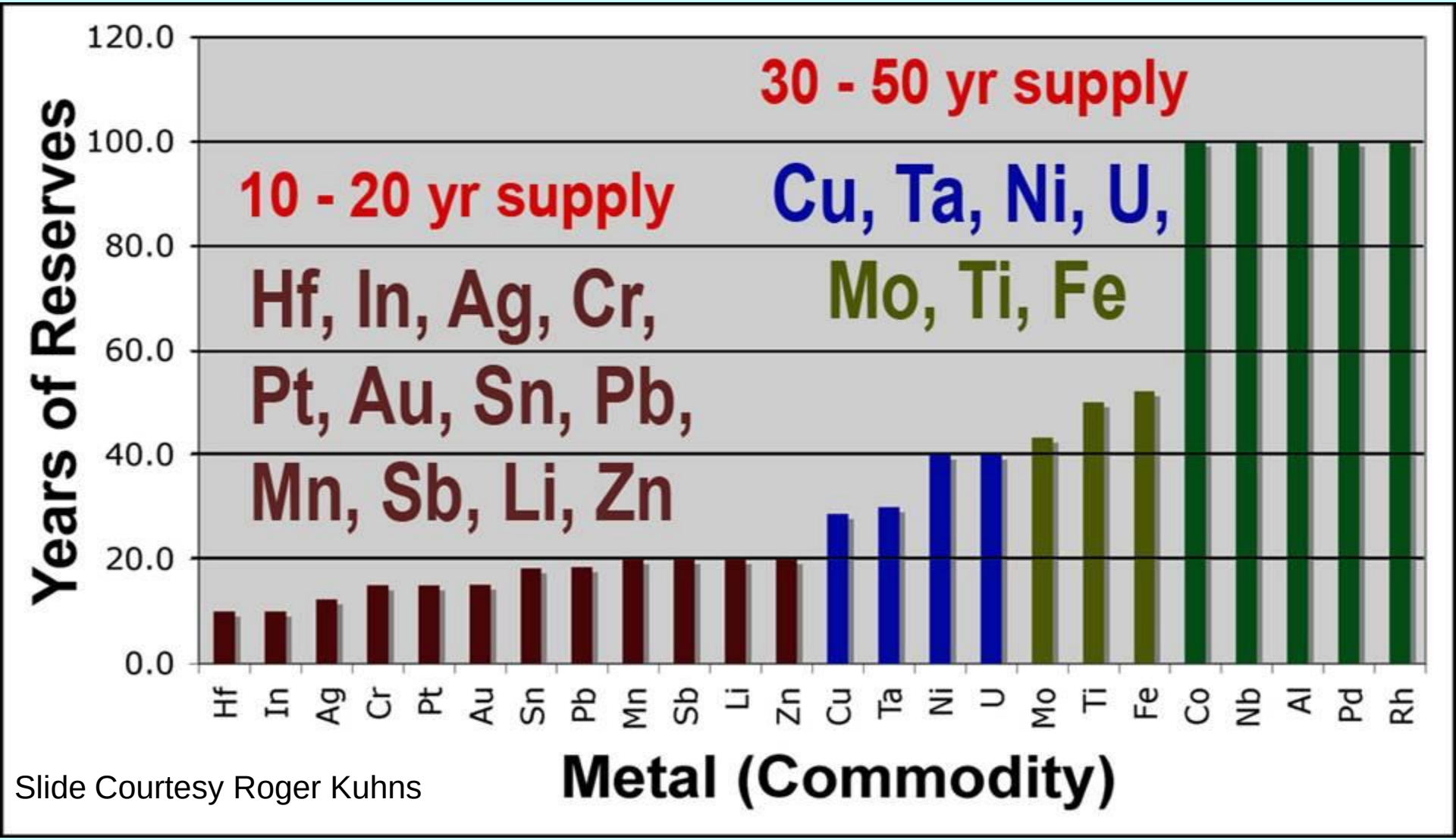
The Funnel of Converging Trends

Deteriorating Living Systems and Environmental Degradation



This funnel illustrates our situation. The top line shows that resources are being depleted while the bottom line shows population and per capita consumption concurrently increasing. What happens when the arrows meet?

Life of Global Metals Reserves



Slide Courtesy Roger Kuhns

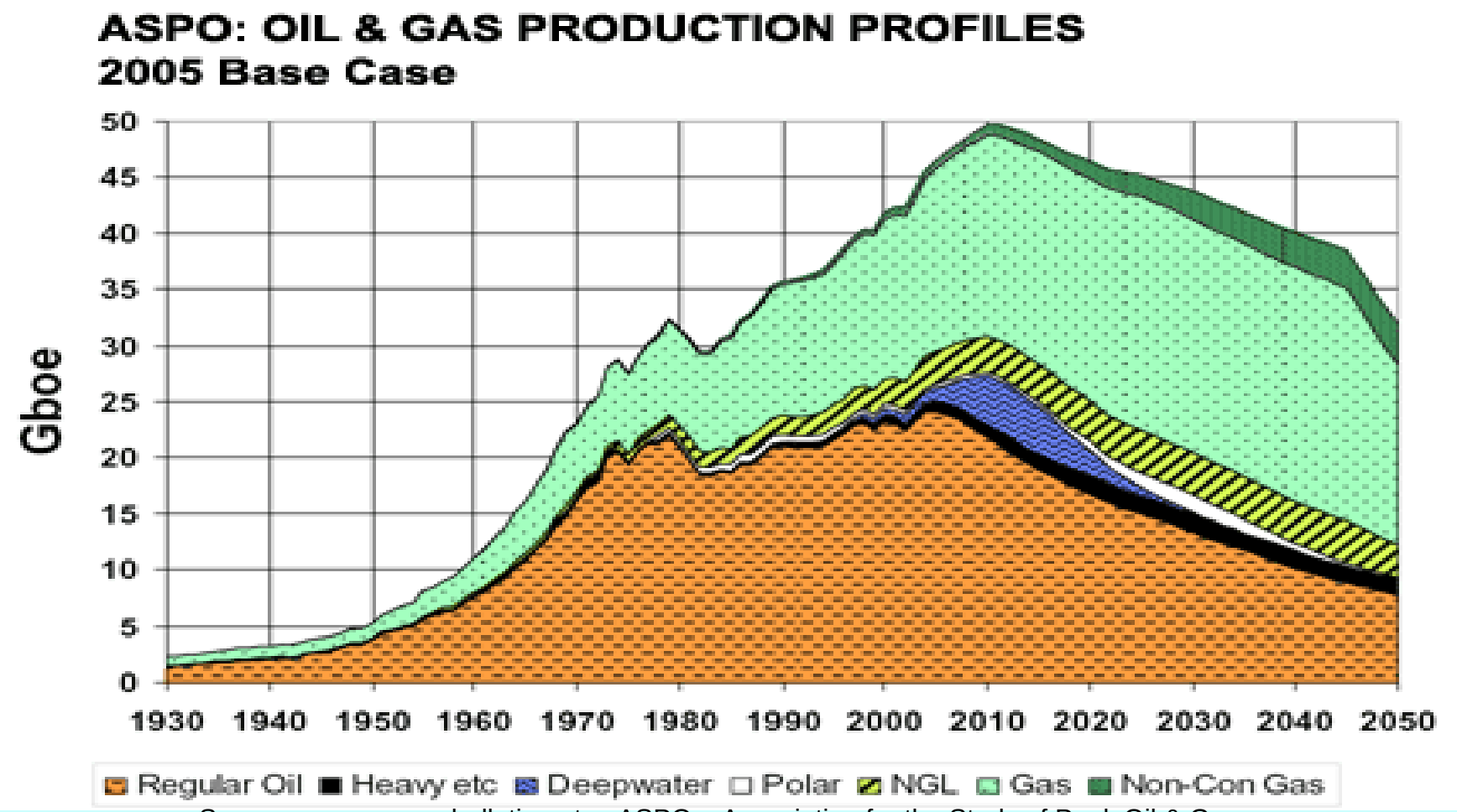
US Geological Survey, 2005 and 2006 Mineral Commodity Summaries; *www.science.org

Many materials essential to our civilization are in short supply.
How old will you be in ten years when some of these will run short?

Listing of scarce metals (Less than 20 years supply)

- HF Hafnium is used in integrated circuits, nuclear power plant control rods, and super alloys.
- IN Indium is used in liquid crystal displays, touch screens, and solar panels.
- AG Silver is used in jewelry, electrical contacts, catalysts in producing plastics, nuclear power plant control rods.
- Cr Chromium is used in high performance alloys such as stainless steel, tool steel, Inconel, and for coating metals.
- PT Platinum is critical in many alloys, industrial processes, and catalysts including catalytic converters and fuel cells.
- AU Gold is used in jewelry and electrical and electronic uses. It is used as a protective coating on space satellites.
- SN Tin is used in alloys, solders, and to coat metals as in tin cans.
- PB Lead is used in batteries, solders, buildings, bullets, and radiation shields.
- MN Manganese is used mostly in refining steel, with other uses in metal alloys and disposable batteries.
- SB Antimony is used in electronics, fireproofing, paints, rubber, ceramics, and medicines.
- LI Lithium is used in lithium batteries, alloys, and ceramics.
- ZN Zinc is principally used in galvanized steel. (Buildings, Cell Towers, Bridges)

Declining fossil fuel supply



Source: www.energybulletin.net ASPO = Association for the Study of Peak Oil & Gas

We will see declining supplies of petroleum products. The easy oilfields are being depleted and new oil fields will be difficult and expensive to develop and extract the oil.

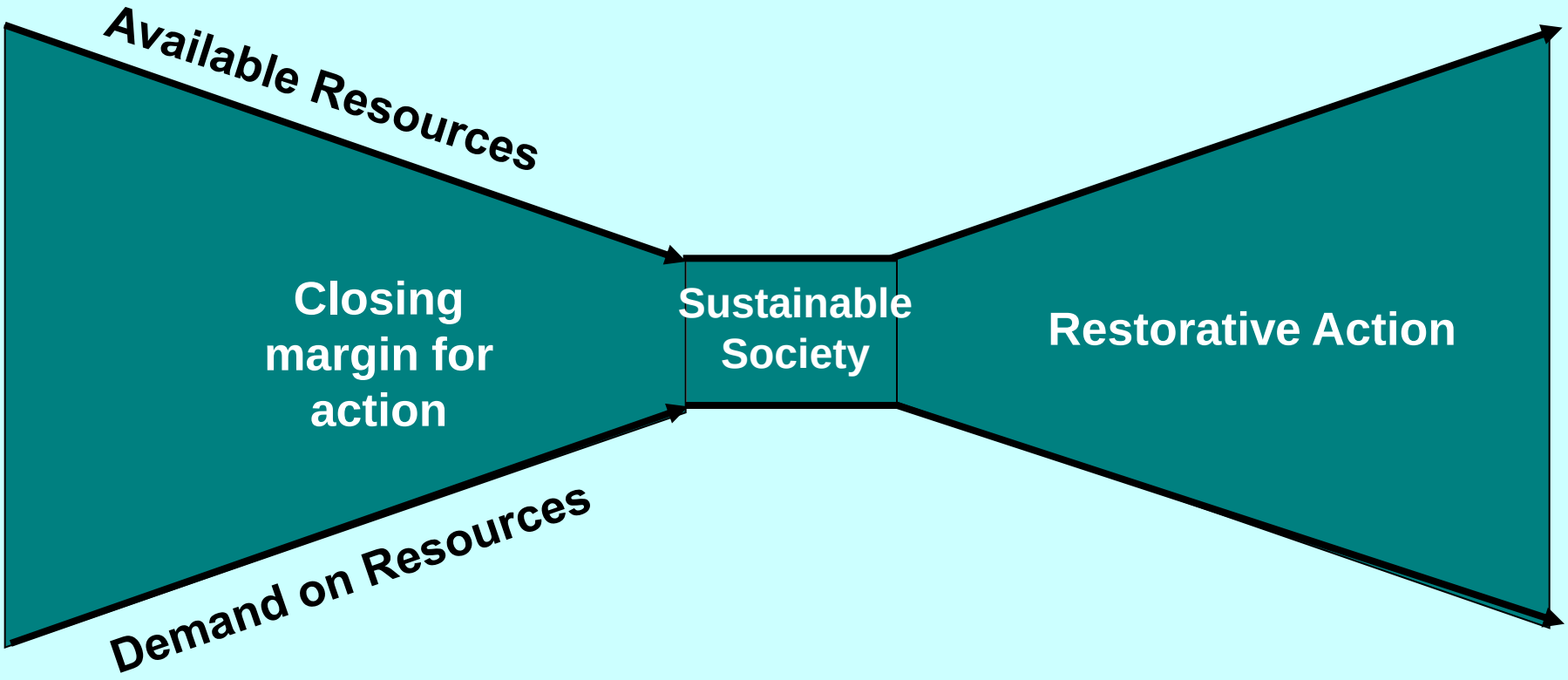
Some Products From Oil

Ammonia Anesthetics Artificial limbs Antiseptics Auto Parts Bandages Cameras Candles Carpets Caulking Clothing Combs Cosmetics Crayons Credit Cards Deodorants Detergents Dyes Eye Glasses Electrical Wiring Insulation Fertilizers Food Preservatives Food Packaging Garden Hose Glue Hearing Aids Insecticides Milk Jugs Oil Filters Rubber Cement Shoes Toothpaste Trash Bags Upholstery Vinyl flooring Water Pipes

Nearly everything we use in our civilization is made from oil, made by machinery and systems that depend on oil, and is transported by oil.

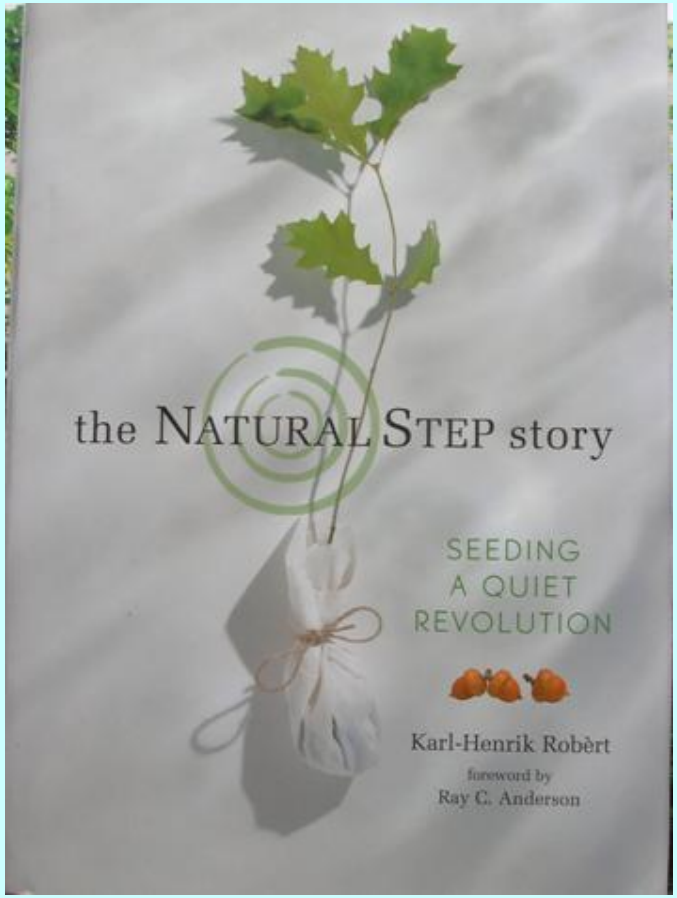
What happens when the supply of these is restricted or they become very expensive as happened to gasoline in 2008?

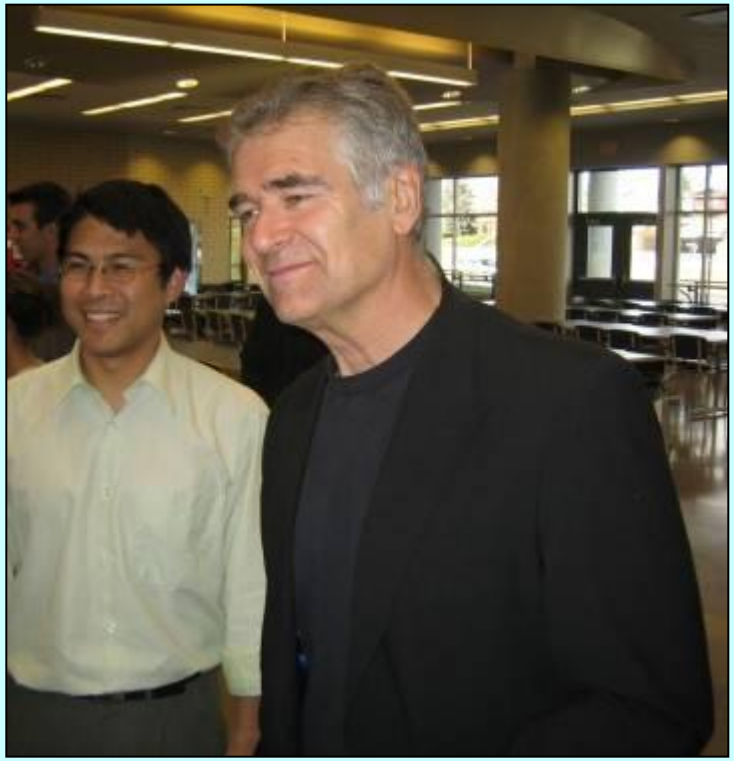
The Funnel



The goal of sustainability is to straighten the walls of the funnel, and eventually to broaden them through restorative action.

History of The Natural Step



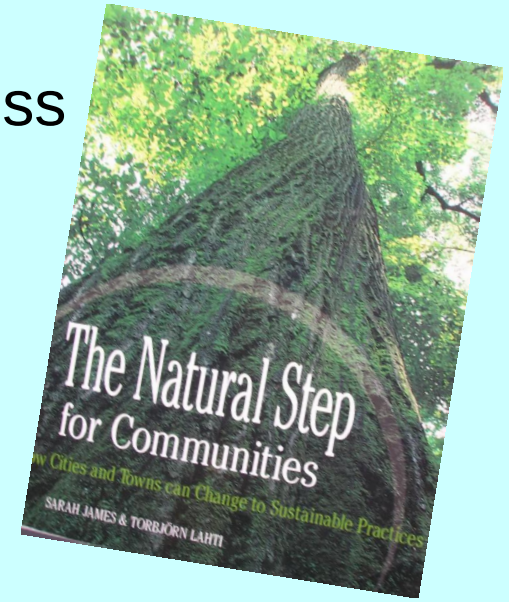


Dr. Karl-Henrik Robèrt

The Natural Step was developed in the 1980s by Dr. Karl-Henrik Robèrt in consultation with scientists, educators, business, and government leaders.

What is The Natural Step (TNS)?

- A framework for defining a sustainable society or business
- An international organization
- A process
- A common terminology



The Natural Step System Conditions

In the Sustainable Society, Nature is not subject to systematically increasing...

1 …concentrations of substances from the Earth's crust.

2 …concentrations of substances produced by society.

3 …degradation by physical means.

and in that sustainable society…..

4 … people are not subject to conditions that systematically undermine their capacity to meet their needs.

The Four System Conditions

(Discussion)

The four system conditions or principles form the basis of the Natural Step. They are based on science, they are definable, measurable, and can form the framework for effective decision making. They also form the basis of a common language of sustainability for clear communications. They use “Systems Thinking”, which considers the impact of any change on all parts of the system.

1. **In the Sustainable Society, Nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust**". Here in Door County we are experiencing lead and arsenic in our soils and groundwater, mercury in our fish, and phosphorus fouling our beaches. Anything we can do to reduce or eliminate these threats will improve our lives and our prosperity.

2. **In the Sustainable Society, Nature is not subject to systematically increasing concentrations of substances produced by society**". For example, here in Door County we have dioxins and DDT concentrated in some fish. We are building up thousands of manmade chemicals in our environment that have no analogs in nature, and nature has limited ways of processing these chemicals into less harmful substances. We can save money by using less of these substances and switching to less toxic ones where possible.

The Four System Conditions

(Discussion)

3. In the Sustainable Society, Nature is not subject to systematic degradation by physical means". This refers to topsoil erosion, over-fishing, building on good farmland, destruction of ponds and wetlands, and such things. The people of the future will need these things and, yes, we do need to eat fish and build houses and roads, but let's do it in a way that conserves essential resources for future generations.

4. In the Sustainable Society, People are not subject to conditions that systematically undermine their capacity to meet their needs" The Natural Step has as a fundamental objective the continuation and prosperity of human society. This means putting attention on such things as affordable housing, unemployment, healthcare, and public transportation. If peoples' needs are not met then our county's prosperity, society, environment, and future will be at risk.

These four system conditions form the scientific basis for the Natural Step.

The Natural Step: The Organization

Founded in Sweden in 1989

A non-profit, research, education and advisory organization that uses a science-based framework to help organizations, individuals and communities move toward sustainability.

www.naturalstep.org

Some Tools for Sustainability

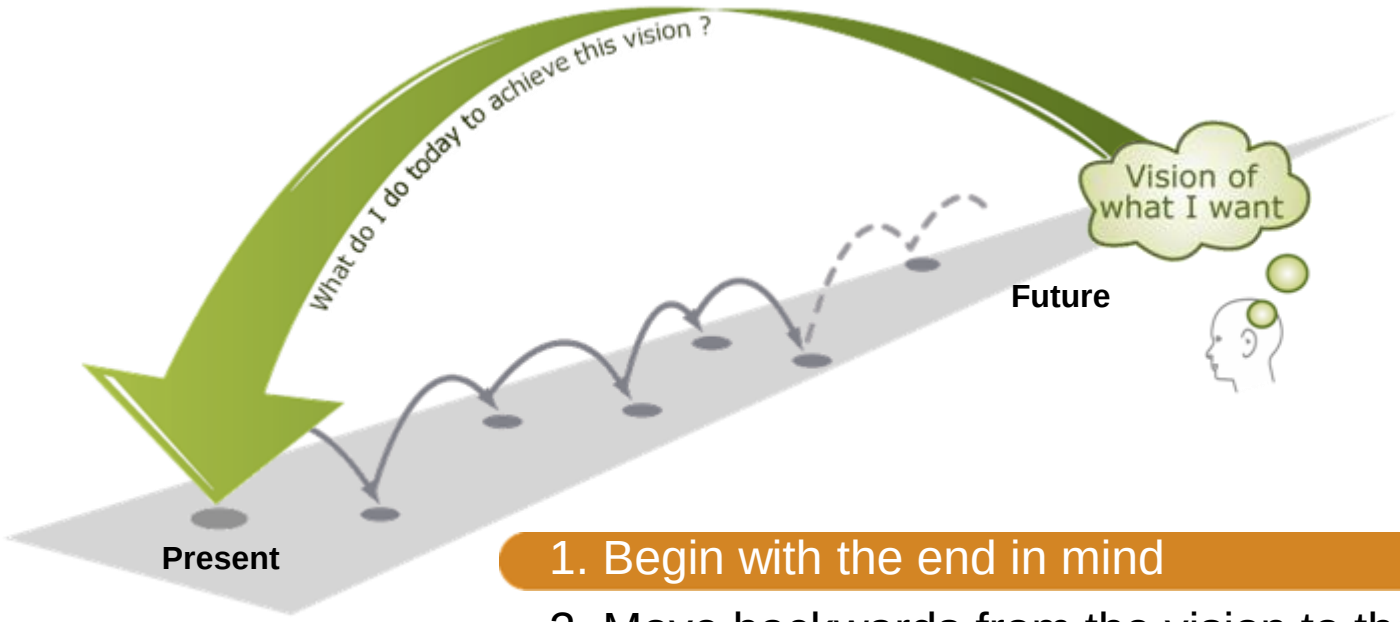
The next slides will introduce:

- **Backcasting,**
- **Full Cost Accounting,**
- **Life Cycle Analysis**

as tools for moving in the direction of sustainability.

Backcasting

A way of planning for a sustainable future.



1. Begin with the end in mind
2. Move backwards from the vision to the present
3. Move step by step towards the vision

Full Cost Accounting

- Full Cost Accounting is the analysis of all the costs, as well as the advantages, of all proposed alternatives.
- Cost includes all costs of producing, transporting, acquiring, running, maintaining, and disposing of the item or service.
- It includes the social and environmental costs to anyone else affected by the decision.

Much of today's unsustainability is because we don't know the true costs of our actions.

Life Cycle Analysis

- Life Cycle Analysis is the assessment of the environmental impact of a given product or service throughout its lifespan. This includes all inputs of production, delivery, use, and disposal.

Eco-municipalities

are communities that have resolved to become more sustainable

- They aspire to develop an ecologically, economically, and socially healthy community for the long term.
- use the Natural Step framework for sustainability as a guide.
- use a democratic, highly participatory development process.

Modified from a slide by Jerry Hembd, UW- Superior

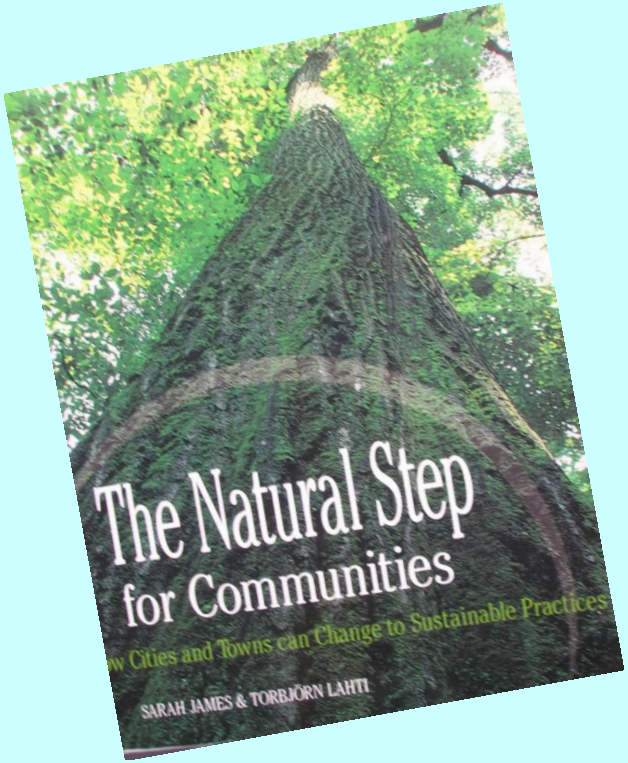
What is different about this model?

The eco-municipality model uses a ***systems approach.*** Key ingredients are widespread community awareness and integrated community involvement, using a common **"sustainability language"** based upon the Natural Step framework.

Source: "Eco-municipality Synopsis." n.d.

Slide courtesy Jerry Hembd, UW- Superior

History of Eco-Municipalities



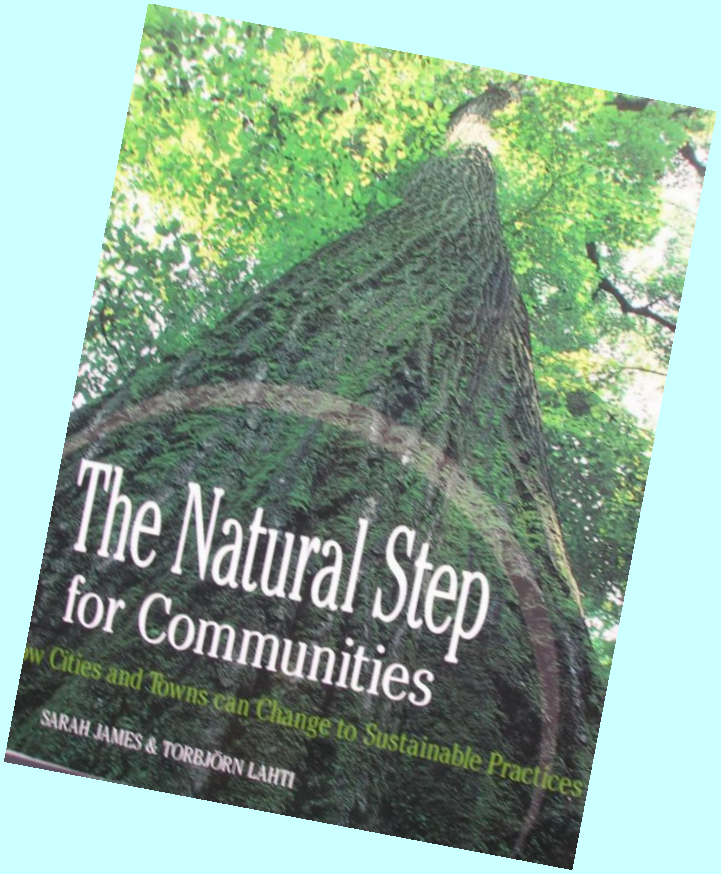
Torbjörn Lahti, Father of the Eco-municipality Movement

Torbjörn Lahti began the first eco-municipality in the early 1980s as a way of re-enlivening the community. This lead to new prosperity, a cultural renaissance, and population growth. Youth now had a reason to remain in the community. Lahti now travels internationally teaching about sustainability.

Wisconsin Community Resolutions Adopting the Natural Step Framework (Chronological Order):

as of June 2009

City of Washburn
City of Ashland
City of Madison
Douglas County
Village of Johnson Creek
Town of Bayfield
City of Bayfield
City of Marshfield
City of LaCrosse
City of Manitowoc
LaCrosse County
Dane County
City of Neenah
City of Baraboo
City of Menasha
City of Beloit
Town of Cottage Grove
Town of Menasha
Dunn County
City of Sheboygan
Village of Spring Green
City of Stevens Point
City of Eau Claire
Village of Colfax



Wisconsin has the highest number of eco-municipalities in the USA.

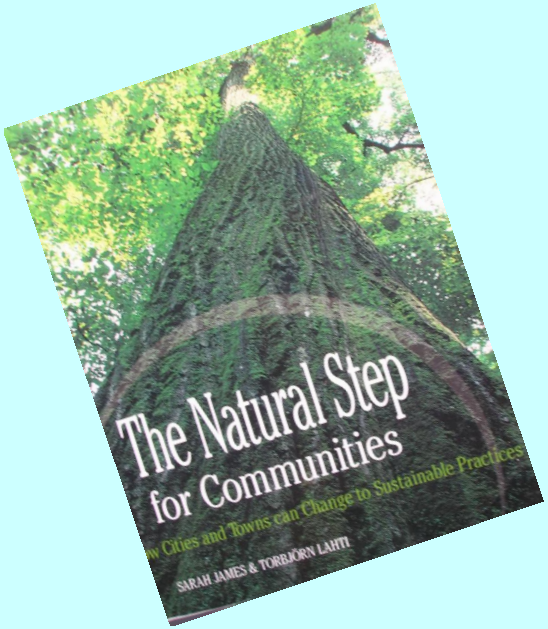
Wisconsin Eco-municipalities

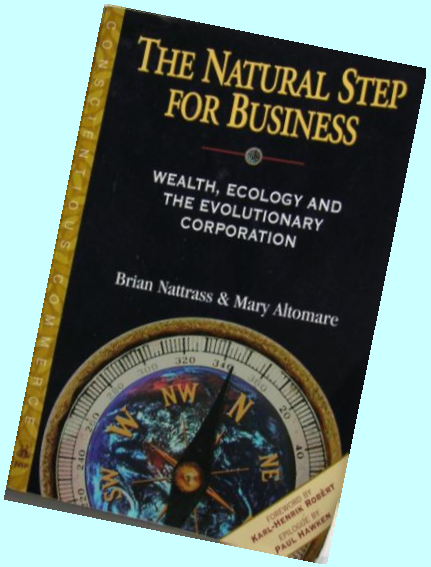
Mission Statement

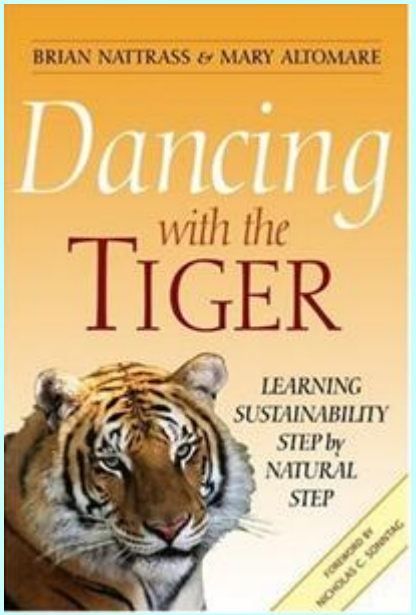
The mission of Sustain Door is to promote the social, economic, and environmental sustainability of

Door County using the Natural Step framework and process.

Study Groups offered by Sustain Door

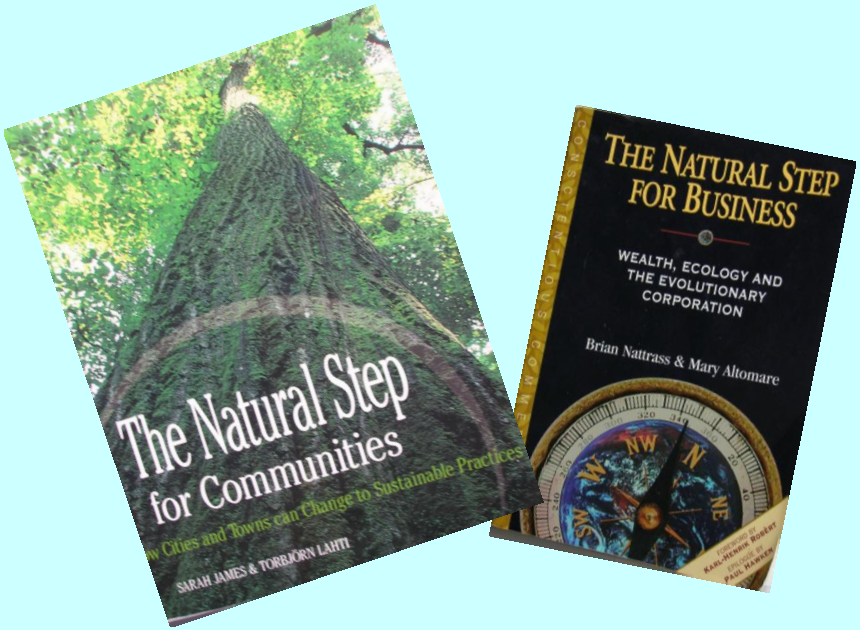






The Natural Step

A Model for Sustainable Change



Prepared by Sustain Door, Inc.
Email: sustaindoor@gmail.com
Web page: sustaindoor.org